



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
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SUBJECT: Risk-Based Concentration Table

FROM: Jennifer Hubbard, Toxicologist
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TO: RBC Table Users

DATE: April 10, 2007

Attached is the EPA Region III Risk-Based Concentration (RBC) Table, which we prepare and post periodically for all interested parties. The Table's current web address is <http://www.epa.gov/reg3hwmd/risk/human/index.htm>.

For questions about the Table, please consult this memo. You can also consult the RBC Table companion documents, such as the Technical Background Document and Frequently Asked Questions, that are posted on the website. If you don't find the answer there, and your question is about risk assessment or the science behind the RBCs, you can reach me at hubbard.jennifer@epa.gov or 215-814-3328. For technical difficulties in reading, displaying, or downloading the table from the web, please contact uebele.charles@epa.gov.

BASIC INFORMATION

The RBC Table contains Reference Doses (RfDs) and Cancer Slope Factors (CSFs) for about 400 chemicals. These toxicity factors have been combined with "standard" exposure scenarios to calculate RBCs--chemical concentrations corresponding to fixed levels of risk (i.e., a Hazard Quotient (HQ) of 1, or lifetime cancer risk of 1E-6, whichever occurs at a lower concentration) in water, air, fish tissue, and soil. The equations and the exposure factors are shown in the RBC Table companion memo, the Technical Background Document.

The Region III toxicologists use RBCs to screen sites not yet on the NPL, respond rapidly to citizen inquiries, and spot-check formal baseline risk assessments. The primary use of RBCs is for chemical screening during baseline risk assessment (see EPA Regional Guidance EPA/903/R-93-001, "Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening"). The exposure equations come from EPA's Risk Assessment Guidance for Superfund (RAGS), while the exposure factors are those recommended in RAGS or supplemental guidance from the Superfund program. The attached Technical Background Document provides specific equations and assumptions. Simply put, RBCs are like risk assessments run in reverse. For a single contaminant in a single medium, under standard default exposure assumptions, the RBC corresponds to the target risk or hazard quotient.

RBCs also have several important limitations. Specifically excluded from consideration are (1) transfers from soil to air, (2) cumulative risk from multiple contaminants or media, and (3) dermal risk. Additionally, the risks for inhalation of vapors from water are based on a very simple model, whereas detailed risk assessments may use more detailed showering models. Many RBCs are also based on adult risks. For more information about children's risks, see the Technical Background Document and Frequently Asked Question #12. Furthermore, the toxicity information in the Table has been assembled by hand and (despite extensive checking and years of use) may contain errors. It's advisable to cross-check before relying on any RfDs or CSFs in the Table. If you note any errors, please let us know.

It is important to note that, at this time, the Table uses inhalation RfDs and CSFs rather than RfCs (Reference Concentrations) and inhalation unit cancer risks. This was initially done because the latter factors incorporate exposure assumptions and were ostensibly based on residential adults. Because risk assessors needed to evaluate risks for many types of scenarios, the factors were converted to the more traditional RfDs and CSFs. Unless otherwise indicated in the toxicity-factor source, the assumption was that RfCs and unit risks should be adjusted by a 70-kilogram body weight and a 20 m³/day inhalation rate to generate the RfDs and CSFs. In fact, for adults, the use of an inhalation-RfD vs. an RfC does not typically change the risk estimate significantly.

Many users want to know if the RBCs can be used as valid no-action levels or cleanup levels, especially for soils. The answer is a bit complex. First, it is important to realize that the RBC Table does not constitute regulation or guidance, and should not be viewed as a substitute for a site-specific risk assessment. For sites where:

- A single medium is contaminated;
- A single contaminant contributes nearly all the health risk;
- Volatilization, dermal contact, and other pathways not included in the RBCs are not expected to be significant;
- The exposure scenarios and assumptions used in the RBC table are appropriate for the site;
- The fixed risk levels used in the RBC table are appropriate for the site; and
- Risk to ecological receptors is not expected to be significant;

the RBCs would probably be protective as no-action levels or cleanup goals. However, to the extent that a site deviates from this description, as most do, the RBCs would not necessarily be appropriate.

To summarize, the Table should generally not be used to set cleanup or no-action levels at CERCLA sites or RCRA Corrective Action sites, to substitute for EPA guidance for preparing baseline risk assessments, or to determine if a waste is hazardous under RCRA.

FEATURES OF THE TABLE

The RBC Table was originally developed by Roy L. Smith, Ph.D., for use by risk assessors in the Region III Superfund program. Dr. Smith is no longer with Region III, and the

Table continues to evolve. The following features of the table should be noted; some of the current features differ from those of past versions of the RBC Table.

WHAT'S NEW

EPA's National Center for Environmental Assessment (NCEA) is the main source of provisional toxicity values for chemicals without IRIS values. Recently, NCEA has recommended ATSDR chronic MRLs for some chemicals, consistent with their description in OSWER Directive 9285.7-53 as Tier 3 toxicity values. In keeping with this, the Region III RBC Table now includes some MRLs as provisional values, coded "M" on the Table. MRLs were only used in the following cases: 1) if there was no IRIS (Tier 1) or current PPRTV (Tier 2) value; 2) if the MRL was more recent than the provisional or HEAST value; and 3) if the MRL was chronic.

We have eliminated chemicals whose PPRTVs have been retired by NCEA. For toxicity values for chemicals that do not appear on the RBC Table or in IRIS, or to obtain supporting documentation for PPRTVs, consult NCEA.

The most significant recent change to the table is the incorporation of age-dependent adjustment factors (ADAFs) in the RBCs of chemicals that are carcinogenic via a mutagenic mode of action. This approach is consistent with the 2005 Guidelines for Carcinogen Risk Assessment and the Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens. As announced in the Federal Register on April 7, 2005 (70 FR 17765-17817), EPA is now incorporating the principles of the Guidelines and the Supplemental Guidance in its risk assessments.

Vinyl chloride is one of the chemicals named in the Supplemental Guidance as needing adjustment for early-life cancer risk estimates. However, chemical-specific adjustments for vinyl chloride have been available on IRIS, and the RBC Table has already incorporated these adjustments, for a few years now (see the May 6, 2001 memo, "Derivation of Vinyl Chloride RBCs," at <http://www.epa.gov/reg3hwmd/risk/human/info/vcrbc.pdf>).

EPA has now identified several other carcinogens that act via a mutagenic mode of action, and to account for their early-life exposures, the default ADAFs of 10 for ages 0-2 and 3 for ages 2-16 have now been incorporated into the RBC Table. The chemicals affected by these default ADAF adjustments are marked on the Table with an "m" next to the chemical name. Example calculations for these RBCs are provided in the supplemental memo, "Derivation of RBCs for Carcinogens that Act Via a Mutagenic Mode of Action and Incorporate Default ADAFs" (October 19, 2006) found on the Region III RBC website at <http://www.epa.gov/reg3hwmd/risk/human/index.htm>.

N-Nitrosodiethylamine and N-nitrosodimethylamine were accidentally omitted from the October 2006 table's list of carcinogens via a mutagenic mode of action. They are now listed and their RBCs calculated accordingly.

FEATURES AND HISTORICAL CHANGES

Updated toxicity factors have been used wherever available. However, because IRIS and provisional values are updated more frequently than the RBC Table, RBC Table users are ultimately responsible for obtaining the most up-to-date values. The RBC Table is provided as a convenience, but toxicity factors are compiled from the original sources and it is those original sources that should serve as the definitive reference.

Changes to the table since the last semi-annual version have been marked with asterisks (**). Changes may involve a corrected CAS number or a correction in the VOC status, a change in the SSL, change in mutagenic status, or changes in RfDs and CSFs or their sources.

For access to "P" and "E" coded values, please see Frequently Asked Question #10 for more information.

Please note that the "industrial soil" numbers were changed on the April 2003 RBC Table to reflect the higher soil ingestion rate of the outdoor worker. This is consistent with the new draft SSL Guidance and with the practice in other regions, as well as providing for additional protection of workers.

RBCs are not rounded to 1E6 ppm, as they were in some earlier versions of the Table. For certain low-toxicity chemicals, the RBCs exceed possible concentrations at the target risks. In such cases, Dr. Smith rounded these numbers to the highest possible concentration, or 1E6 ppm. This type of truncation has been discontinued so that Table users can adjust the RBCs to a different target risk whenever necessary. For example, when screening chemicals at a target HQ of 0.1, noncarcinogenic RBCs may simply be divided by 10. Such scaling is not possible when RBCs are rounded. Users who are interested in truncation can also consult the Soil Screening Guidance for a discussion of "Csat," the saturation concentration.

At Region III Superfund sites, noncancer RBCs are typically adjusted downward to correspond to a target HQ of 0.1 rather than 1. (This is done to ensure that chemicals with additive effects are not prematurely eliminated during screening. Note that the RBCs displayed on the table are shown at an HQ of 1; to arrive at the RBC at 0.1, data users must do the conversion themselves.) However, some chemicals have RBCs at HQs of 0.1 that are lower than their RBCs at 1E-6 cancer risk. In other words, the screening RBC would change from carcinogenic to noncarcinogenic. These chemicals are flagged with a "!" symbol. Therefore, assessors screening with adjusted RBCs will be alerted to this situation. See the companion attachment to the RBC Table, "Alternate RBCs," for alternate values for "!" RBCs.

Earlier versions of this Table included a substitution of inhalation toxicity factors for oral factors whenever oral factors were unavailable (this applied only to groundwater and air, but not soil or fish). This practice was discontinued in order to minimize the uncertainty

associated with such a conversion. The discontinuation of this practice did not significantly decrease the number of available RBCs.

The criterion for "VOC status" is in accordance with RAGS Part B: chemicals with Henry's Law constants greater than 1E-5 and molecular weight less than 200 are marked as VOCs.

Earlier versions of this Table included soil screening levels (SSLs), when those values were available in draft form. Since the finalization of the SSL Guidance, risk assessors are urged to consult the final SSL Guidance directly. However, for generic use in Region III, the table now contains soil-to-groundwater SSLs in accordance with the new guidance. For more information, see the Region III memo on SSLs, or consult the national SSL guidance directly (Soil Screening Guidance: User's Guide, April 1996, Publication 9355.4-23; and Soil Screening Guidance: Technical Background Document, May 1996; EPA/540/R-95/128; as well as Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, December 2002; OSWER 9355.4-24).

You may notice there are two rows for uranium, one reflecting the IRIS (EPA consensus) value and the other reflecting a more recent, but provisional, value. Region III has shown both on this table, rather than choosing one over the other, to give Table users as much information as possible.

Vinyl chloride is handled differently from most other chemicals because of the unique aspects of its slope factor derivation. Readers are referred to the memo, Derivation of Vinyl Chloride RBCs, which is a companion document to this RBC Table (<http://www.epa.gov/reg3hwmd/risk/human/info/vcrbc.pdf>).



Mid-Atlantic Risk Assessment

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Human Health Risk Assessment

Risk-Based Concentration Table

October 2006 Update*

- Updated RBC Table Cover Memo [[HTML Information and Guides](#) | [PDF](#)]
- Frequently Asked Questions [[HTML](#) | [PDF](#)]
- [Background Information](#)
- [Region 3 SSL memo](#) - [[PDF](#)]
- [SSL References](#) - [[PDF](#)]
- [SSL Background data](#) - [[PDF](#)]
- [Vinyl Chloride RBC Memo](#) [[PDF](#)]
- [Default ADAF Memo](#)
Corrected: 11/08/06 [[PDF](#)]

Note on the Use of Dermal Guidance in Region III. In 2003, EPA Region III stated that it would temporarily continue to use median shower/bath exposure times as defaults, until RAGS E guidance became final. RAGS E has become final, and Region III is adopting the high-end shower/bath times as default recommendations. Region III staff can provide further assistance with site-specific recommendations for the full complement of shower/bath exposure parameters.
(4/7/2005)

RBC Tables

- [PDF](#) [439 kb]
- [Lotus 123](#) [189 kb]
- [Excel](#) [160 kb]

Alternate RBC Tables

- [PDF](#) [26 kb]
- [Lotus 123](#) [9 kb]
- [Excel](#) [15 kb]

* "Erratum, October 2006 RBC Table - posted 12/29/06

The RfD and RBCs for nitroglycerin in the October 2006 table were based on a typographical error. The following values should be shown:

Nitroglycerin

- Oral RfD: 1E-4 mg/kg/day (P) Oral CSF: 1.7E-2 per mg/kg/day (P)
- Tap water RBC: 3.7 ug/L (N)
- Ambient air RBC: 0.37 ug/m³ (N)
- Fish RBC: 0.14 mg/kg (N)
- Industrial soil RBC: 100 mg/kg (N)
- Residential soil RBC: 7.8 mg/kg (N)"

- [Updated Dermal Exposure Assessment Guidance](#) [June 2003]
- [Assessing Dermal Exposure from Soil](#) [December 1995]
- [Use of Monte Carlo Simulation in Risk Assessments](#)
- [Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening](#)
- [EPA Region 3 Guidance on Handling Chemical Concentration Data Near the Detection Limit in Risk Assessments](#)
- [Soil Screening Guidance](#)
- [Exposure Point Concentrations in Groundwater](#) [[PDF](#)]

| Sources: I = IRIS, H = HEAST, A = HEAST Alternate, M = ATSDR MRL (chronic) E = EPA-NCEA provisional value, O = other, P = EPA provisional peer-reviewed m = Default ADAFs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects, N = Noncarcinogenic effects I = RBC at HI of 0, 1 < RBC-c, see Alternate RBCs II = See Alternate RBCs | | | | | | |
|--|----------|-----------------|-------------------|-----------------|-------------------|---------------|--|----------------------|------------|--------------------------|----------------------|--|--------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDI mg/kg/d | CSFI 1/mg/kg/d | VOC | Risk-based concentrations | | | | Region III SSS | | |
| | | | | | | | Tap water ug/l | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
| ACETALDEHYDE | 75070 | | | 2.57E-003 I | 7.7E-003 I | y | 1.6E+000 C | 8.1E-001 C | | | | 3.8E-004 | 7.7E-003 C |
| ACETOCHLOR | 34256821 | 2E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | |
| ACETONE | 67641 | 9.00E-001 I | | | | y | 5.5E+003 N | 3.3E+003 N | 1.2E+003 N | 9.2E+005 N | 7.0E+004 N | 1.1E+000 | 2.2E+001 N |
| ACETONITRILE | 75058 | | | | 1.7E-002 I | y | 1.2E+002 N | 6.2E+001 N | | | | | |
| ACETOPHENONE | 98862 | 1.00E-001 I | | | | y | 6.1E+002 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 2.9E-002 | 5.8E-001 N |
| ACROLEIN | 107028 | 5.00E-004 I | | | 5.70E-006 I | y | 4.2E-002 N | 2.1E-002 N | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | 1.0E-005 | 2.0E-004 N |
| ACRYLAMIDE | 79061 | 2.00E-004 I | 4.50E+000 I | | 4.50E+000 I | | 1.5E-002 C | 1.4E-003 C | 7.0E-004 C | 6.4E-001 C | 1.4E-001 C | 3.7E-006 | 7.4E-005 C |
| ACRYLONITRILE | 107131 | 1.00E-003 H | 5.40E-001 I | 5.70E-004 I | -2.40E-001 I | y | 3.7E-002 C | 2.6E-002 C | 5.8E-003 C | 5.3E+000 C | 1.2E+000 C | 7.4E-006 | 1.5E-004 C |
| ALACHLOR | 15972608 | 1.00E-002 I | 8.00E-002 H | | | | 8.4E-001 C | 7.8E-002 C | 3.9E-002 C | 3.6E+001 C | 8.0E+000 C | 3.5E-004 | 7.0E-003 C |
| ALAR | 1596845 | 1.50E-001 I | | | | | 5.5E+003 N | 5.5E+002 N | 2.0E+002 N | 1.5E+005 N | 1.2E+004 N | | |
| ALDICARB | 116063 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 1.0E-002 | 2.1E-001 N |
| ALDICARB SULFONE | 1646884 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 7.5E-003 | 1.5E-001 N |
| ALDRIN | 309002 | 3.00E-005 I | 1.70E+001 I | | 1.70E+001 I | | 3.9E-003 C | 3.7E-004 C | 1.9E-004 C | 1.7E-001 C | 3.8E-002 C | 3.8E-004 | 7.7E-003 C |
| **ALUMINUM | 7429905 | 1.00E+000 P | | | 1.00E-003 P | | 3.7E+004 N | 3.7E+000 N | 1.4E+003 N | 1.0E+006 N | 7.8E+004 N | | |
| AMINODINITROTOLUENES | | 2.00E-003 E | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |
| AMMONIA | 7664417 | | | 2.86E-002 I | | y | 2.1E+002 N | 1.0E+002 N | | | | | |
| ANILINE | 62533 | 7.00E-003 P | 5.70E-003 I | 2.90E-004 I | | y | 1.2E+001 C | 1.1E+000 N | 5.5E-001 C | 5.0E+002 C | 1.1E+002 C | 6.8E-003 | 1.4E-001 C |
| ANTIMONY | 7440360 | 4.00E-004 I | | | | | 1.5E+001 N | 1.5E+000 N | 5.4E-001 N | 4.1E+002 N | 3.1E+001 N | 6.6E-001 | 1.3E+001 N |
| ANTIMONY TRIOXIDE | 1309644 | 4.00E-004 H | | | 5.70E-005 I | | 1.5E+001 N | 2.1E-001 N | 5.4E-001 N | 4.1E+002 N | 3.1E+001 N | | |
| ARSENIC | 7440382 | 3.00E-004 I | 1.50E+000 I | | 1.51E+001 I | | 4.5E-002 C | 4.1E-004 C | 2.1E-003 C | 1.9E+000 C | 4.3E-001 C | 1.3E-003 | 2.6E-002 C |
| ARSINE | 7784421 | | | 1.40E-005 I | | y | 1.0E-001 N | 5.1E-002 N | | | | | |
| ASSURE | 76578148 | 9.00E-003 I | | | | | 3.3E+002 N | 3.3E+001 N | 1.2E+001 N | 9.2E+003 N | 7.0E+002 N | | |
| ATRAZINE | 1912249 | 3.50E-002 I | 2.20E-001 H | | | | 3.0E-001 C | 2.8E-002 C | 1.4E-002 C | 1.3E+001 C | 2.9E+000 C | 4.4E-004 | 8.8E-003 C |
| BARIUM | 7440393 | 2.00E-001 I | | | 1.40E-004 A | | 7.3E+003 N | 5.1E-001 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 3.0E+002 | 6.0E+003 N |
| BAYGON | 114261 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | | |
| BAYTHROID | 68359375 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 2.6E+004 N | 2.0E+003 N | | |
| BENTAZON | 25057890 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | |
| BENZALDEHYDE | 100527 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| BENZENE | 71432 | 4.00E-003 I | 5.5E-002 I | 8.6E-003 I | 2.7E-002 I | y | 3.4E-001 C | 2.3E-001 C | 5.7E-002 C | 5.2E+001 C | 1.2E+001 C | 9.5E-005 | 1.9E-003 C |
| BENZENETHIOL | 108985 | 1.00E-005 H | | | | y | 6.1E-002 N | 3.7E-002 N | 1.4E-002 N | 1.0E+001 N | 7.8E-001 N | | |
| BENZIDINE | m | 92875 | 3.00E-003 I | 2.30E+002 I | | 2.30E+002 I | 1.0E-004 C | 1.0E-005 C | 1.4E-005 C | 1.2E-002 C | 7.0E-004 C | | |
| BENZOIC ACID | 65850 | 4.00E+000 I | | | | | 1.5E+005 N | 1.5E+004 N | 5.4E+003 N | 4.1E+006 N | 3.1E+005 N | | |
| BENZYL ALCOHOL | 100516 | 5.00E-001 P | | | | | 1.8E+004 N | 1.8E+003 N | 6.8E+002 N | 5.1E+005 N | 3.9E+004 N | 7.3E+000 | 1.5E+002 N |
| BENZYL CHLORIDE | 100447 | | 0.17 I | | | | 6.2E-002 C | 3.7E-002 C | 1.9E-002 C | 1.7E+001 C | 3.8E+000 C | 1.9E-005 | 3.7E-004 C |
| BERYLLIUM | 7440417 | 2.00E-003 I | | 5.7E-006 I | 8.40E+000 I | y | 7.3E+001 N | 7.5E-004 C | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | 5.8E+001 | 1.2E+003 N |
| BIPHENYL | 92524 | 5.00E-002 I | | | | y | 3.0E+002 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | 4.8E+000 | 9.6E+001 N |
| BIS(2-CHLOROETHYL)ETHER | 111444 | | 1.10E+000 I | | 1.10E+000 I | y | 9.6E-003 C | 5.7E-003 C | 2.9E-003 C | 2.6E+000 C | 5.8E-001 C | 2.2E-006 | 4.4E-005 C |
| BIS(2-CHLOROISOPROPYL)ETHER | 108601 | 4.00E-002 I | 7.00E-002 H | | 3.50E-002 H | y | 2.6E-001 C | 1.8E-001 C | 4.5E-002 C | 4.1E+001 C | 9.1E+000 C | 8.4E-005 | 1.7E-003 C |
| BIS(CHLOROMETHYL)ETHER | 542881 | | 2.20E+002 I | | 2.20E+002 I | y | 4.8E-005 C | 2.8E-005 C | 1.4E-005 C | 1.3E-002 C | 2.9E-003 C | 9.7E-009 | 1.9E-007 C |
| BIS(2-ETHYLHEXYL)PHTHALATE | | 117817 | 2.00E-002 I | 1.40E-002 I | | | 4.8E+000 C | 4.5E-001 C | 2.3E-001 C | 2.0E+002 C | 4.6E+001 C | 1.4E+002 | 2.9E+003 C |
| BORON | 7440428 | 2.00E-001 I | | | 5.70E-003 H | | 7.3E+003 N | 2.1E+001 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | | |
| BROMODICHLOROMETHANE | 75274 | 2.00E-002 I | 6.20E-002 I | | | y | 1.7E-001 C | 1.0E-001 C | 5.1E-002 C | 4.6E+001 C | 1.0E+001 C | 5.4E-005 | 1.1E-003 C |
| BROMOETHENE | 593602 | | | | 8.6E-004 I | 1.10E-001 H y | 1.1E-001 C | 5.7E-002 C | | | | 5.4E-005 | 1.1E-003 C |
| BROMOFORM | 75252 | 2.00E-002 I | 7.90E-003 I | | 3.90E-003 I | | 8.5E+000 C | 1.6E+000 C | 4.0E-001 C | 3.6E+002 C | 8.1E+001 C | 3.3E-003 | 6.7E-002 C |
| BROMOMETHANE | 74839 | 1.40E-003 I | | | 1.40E-003 I | y | 8.5E+000 N | 5.1E+000 N | 1.9E+000 N | 1.4E+003 N | 1.1E+002 N | 2.1E-003 | 4.1E-002 N |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-C; see Alternate RBCs !! = See Alternate RBCs | | | | | | |
|--|----------|-----------------|-------------------|-----------------|-------------------|-------------|--|-------------------------------------|---------------|-----------------------------|----------------------|---|------------------------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC ug/l | Risk-based concentrations | | | | | Region III SSLs | |
| | | | | | | | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil, for groundwater migration DAF 1 st mg/kg | DAF 2 nd mg/kg |
| BROMOPHOS | 2104963 | 5.00E-003 H | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | |
| 1,3-BUTADIENE | 106990 | | | 5.7E-004 I | 1.00E-001 I | y | 1.3E-001 C | 6.3E-002 C | | | | 7.0E-005 | 1.4E-003 C |
| 1-BUTANOL | 71363 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 7.8E-001 | 1.6E+001 N |
| BUTYLBENZYLPHthalATE | 85687 | 2.00E-001 I | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 8.4E+002 | 1.7E+004 N |
| CADMIUM-WATER | 7440439 | 5.00E-004 I | | 5.7E-005 E | 6.30E+000 I | | 1.8E+001 N | 9.9E-004 C | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | 1.4E+000 | 2.7E+001 N |
| CADMIUM-FOOD | 7440439 | 1.00E-003 I | | 5.7E-005 E | 6.30E+000 I | | 3.7E+001 N | 9.9E-004 C | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 2.7E+000 | 5.5E+001 N |
| CAPROLACTAM | 105602 | 5.00E-001 I | | | | | 1.8E+004 N | 1.8E+003 N | 6.8E+002 N | 5.1E+005 N | 3.9E+004 N | | |
| CARBARYL | 63252 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 1.5E+000 | 3.0E+001 N |
| CARBON DISULFIDE | 75150 | 1.00E-001 I | | 2.00E-001 I | y | | 1.0E+003 N | 7.3E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 9.5E-001 | 1.9E+001 N |
| CARBON TETRACHLORIDE | 56235 | 7.00E-004 I | 1.30E-001 I | 5.00E-002 M | 5.30E-002 I | y | 1.6E-001 C | 1.2E-001 C | 2.4E-002 C | 2.2E+001 C | 4.9E+000 C | 1.1E-004 | 2.1E-003 C |
| CARBOSULFAN | 55285148 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | |
| CHLORAL HYDRATE | 302170 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| CHLORANIL | 118752 | | 4.00E-001 H | | | | 1.7E-001 C | 1.6E-002 C | 7.9E-003 C | 7.2E+000 C | 1.6E+000 C | | |
| CHLORDANE | 57749 | 5.00E-004 I | 3.5E-001 I | 2.00E-004 I | 3.5E-001 I | | 1.9E-001 C | 1.8E-002 C | 9.0E-003 C | 8.2E+000 C | 1.8E+000 C | 4.6E-002 | 9.2E-001 C |
| CHLORINE DIOXIDE | 10049044 | 3.00E-002 I | | 5.70E-005 I | y | | 4.2E-001 N | 2.1E-001 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | |
| CHLOROACETIC ACID | 79118 | 2.00E-003 H | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |
| 4-CHLOROANILINE | 106478 | 4.00E-003 I | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | 4.8E-002 | 9.7E-001 N |
| CHLOROBENZENE | 108907 | 2.00E-002 I | | 1.4E-002 P | y | | 9.0E+001 N | 5.1E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 3.4E-002 | 6.8E-001 N |
| 2-CHLORO-1,3-BUTADIENE | 126998 | 2.00E-002 A | | 2.00E-003 H | y | | 1.4E+001 N | 7.3E+000 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 6.0E-003 | 1.2E-001 N |
| 1-CHLORO-1,1-DIFLUOROETHANE | 75683 | | | 1.40E+001 I | y | | 1.0E+005 N | 5.1E+004 N | | | | 7.0E+001 | 1.4E+003 N |
| CHLORODIFLUOROMETHANE | 75456 | | | 1.40E+001 I | y | | 1.0E+005 N | 5.1E+004 N | | | | 7.0E+001 | 1.4E+003 N |
| CHLOROETHANE | 75003 | 4.00E-001 E | 2.90E-003 E | 2.90E+000 I | y | | 3.6E+000 C | 2.2E+000 C | 1.1E+000 C | 9.9E+002 C | 2.2E+002 C | 9.6E-004 | 1.9E-002 C |
| CHLOROFORM | 67663 | 1.00E-002 I | | 1.4E-002 E | 8.10E-002 I | y | 1.5E-001 C | 7.7E-002 C | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 4.5E-005 | 9.1E-004 C |
| CHLOROMETHANE | 74873 | | | 2.6E-002 I | y | | 1.9E+002 N | 9.5E+001 N | | | | 4.6E-002 | 9.3E-001 N |
| 4-CHLORO-2-METHYLANILINE | 95692 | | 5.80E-001 H | | | | 1.2E-001 C | 1.1E-002 C | 5.4E-003 C | 4.9E+000 C | 1.1E+000 C | | |
| BETA-CHLORONAPHTHALENE | 91587 | 8.00E-002 I | | | y | | 4.9E+002 N | 2.9E+002 N | 1.1E+002 N | 8.2E+004 N | 6.3E+003 N | 1.6E+000 | 3.2E+001 N |
| 2-CHLOROPHENOL | 95578 | 5.00E-003 I | | | y | | 3.0E+001 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | |
| 2-CHLOROPROpane | 75296 | | | 2.90E-002 H | y | | 2.1E+002 N | 1.1E+002 N | | | | 6.6E-002 | 1.3E+000 N |
| O-CHLOROTOLUENE | 95498 | 2.00E-002 I | | | y | | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 6.5E-002 | 1.3E+000 N |
| P-CHLOROTOLUENE | 106434 | 7.00E-002 P | | | y | | 4.3E+002 N | 2.6E+002 N | 9.5E+001 N | 7.2E+004 N | 5.5E+003 N | | |
| CHLORPYRIFOS | 2921882 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | 3.2E+000 | 6.3E+001 N |
| CHLORPYRIFOS-METHYL | 5598130 | 1.00E-002 H | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | |
| CHROMIUM III | 16065831 | 1.50E+000 I | | | | | 5.5E+004 N | 5.5E+003 N | 2.0E+003 N | 1.5E+006 N | 1.2E+005 N | 9.9E+007 | 2.0E+009 N |
| CHROMIUM VI | 18540299 | 3.00E-003 I | | 3.00E-005 I | 4.10E-001 I | 2.2 I | 1.1E+002 N | 1.0E-003 C | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | 2.1E+000 | 4.2E+001 N |
| COKE OVEN EMISSIONS (COAL TAR) | m | 8007452 | 4.00E-002 H | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | 5.3E+002 | 1.1E+004 N |
| COPPER | 7440508 | | | | | | 6.6E+002 N | 4.0E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 3.2E+000 | 6.4E+001 N |
| CUMENE | 98828 | 1.00E-001 I | | 1.10E-001 I | y | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 7.4E+000 | 1.5E+002 N |
| CYANIDE (FREE) | 57125 | 2.00E-002 I | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | | |
| CALCIUM CYANIDE | 592018 | 4.4E-002 I | | | | | | | | | | | |
| COPPER CYANIDE | 544923 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | |
| CYANOGEN | 460195 | 4.00E-002 I | | | y | | 2.4E+002 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | | |
| HYDROGEN CYANIDE | 74908 | 2.00E-002 I | | 8.60E-004 I | y | | 6.2E+000 N | 3.1E+000 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 1.1E-001 | 2.2E+000 N |
| POTASSIUM CYANIDE | 151508 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | |
| POTASSIUM SILVER CYANIDE | 506616 | 2.00E-001 I | | | | | 7.3E+003 N | 7.3E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | | |
| SILVER CYANIDE | 506649 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 3.1E+001 | 6.2E+002 N |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs " = See Alternate RBCs | | | | | | | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-------------|---|---------------------------|---------------|-----------------------------|----------------------|----------------|-----------------|------------|
| Chemical | CAS | | | | | | | Risk-based concentrations | | | | | Region III SSLs | |
| | | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Tap water ug/l | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg | |
| SODIUM CYANIDE | 143339 | 4.00E-002 I | | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | | | |
| THIOCYANATES | | 2.00E-004 P | | | | | 7.3E+000 N | 7.3E-001 N | 2.7E-001 N | 2.0E+002 N | 1.6E+001 N | | | |
| ZINC CYANIDE | 557211 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | | |
| CYCLOHEXANE | 110827 | | 1.70E+000 I | | | y | 1.2E+004 N | 6.2E+003 N | | | | | | |
| CYCLOHEXANONE | 108941 | 5.00E+000 I | | | | | 1.8E+005 N | 1.8E+004 N | 6.8E+003 N | 5.1E+006 N | 3.9E+005 N | | | |
| CYHALOTHIN/KARATE | 68085858 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | | |
| CYPERMETHRIN | 52315078 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | | |
| DACTHAL | 1861321 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | | |
| DALAPON | 75990 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | | |
| DDD | 72548 | | 2.40E-001 I | | | | 2.8E-001 C | 2.6E-002 C | 1.3E-002 C | 1.2E+001 C | 2.7E+000 C | 5.6E-001 | 1.1E+001 C | |
| DDE | 72559 | | 3.40E-001 I | | | | 2.0E-001 C | 1.8E-002 C | 9.3E-003 C | 8.4E+000 C | 1.9E+000 C | 1.8E+000 | 3.5E+001 C | |
| DDT | 50293 | 5.00E-004 I | 3.40E-001 I | | | | 2.0E-001 C | 1.8E-002 C | 9.3E-003 C | 8.4E+000 C | 1.9E+000 C | 5.8E-002 | 1.2E+000 C | |
| DIAZINON | 333415 | 9.00E-004 H | | | | | 3.3E+001 N | 3.3E+000 N | 1.2E+000 N | 9.2E+002 N | 7.0E+001 N | 2.1E-002 | 4.3E-001 N | |
| **DIBENZOFURAN | 132649 | 1.00E-003 P | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | | | |
| 14-DIBROMOBENZENE | 106376 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | | |
| DIBROMOCHLOROMETHANE | 124481 | 2.00E-002 I | 8.40E-002 I | | | y | 1.3E-001 C | 7.5E-002 C | 3.8E-002 C | 3.4E+001 C | 7.6E+000 C | 4.1E-005 | 8.3E-004 C | |
| 1,2-DIBROMO-3-CHLOROPROPANE | m | 96128 | 2.00E-004 P | 8.00E-001 P | 5.70E-005 I | 2.10E+001 P | y | 2.0E-004 C | 1.0E-004 C | 3.9E-003 C | 3.6E+000 C | 2.0E-001 C | 1.8E-007 | 3.7E-006 C |
| 1,2-DIBROMOETHANE | 106934 | 9.00E-003 I | 2.00E+000 I | 2.6E-003 I | 2.00E+000 I | y | 5.3E-003 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | 3.0E-006 | 6.0E-005 C | |
| DIBUTYLPHthalate | 84742 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | | |
| DICAMBA | 1918009 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | 2.2E-001 | 4.5E+000 N | |
| 1,2-DICHLOROBENZENE | 95501 | 9.00E-002 I | | 4.00E-002 H | | y | 2.7E+002 N | 1.5E+002 N | 1.2E+002 N | 9.2E+004 N | 7.0E+003 N | 2.3E-001 | 4.6E+000 N | |
| 1,3-DICHLOROBENZENE | 541731 | 3.00E-003 E | | | | | 1.8E+001 N | 1.1E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | 1.5E-002 | 2.9E-001 N | |
| 1,4-DICHLOROBENZENE | 1064647 | 3.00E-002 E | 2.40E-002 H | 2.29E-001 I | 2.2E-002 E | y | 4.7E-001 C | 2.8E-001 C | 1.3E-001 C | 1.2E+002 C | 2.7E+001 C | 3.6E-004 | 7.1E-003 C | |
| 3,3'-DICHLOROBENZIDINE | 91941 | | 4.50E-001 I | | | | 1.5E-001 C | 1.4E-002 C | 7.0E-003 C | 6.4E+000 C | 1.4E+000 C | 2.5E-004 | 4.9E-003 C | |
| DICHLORODIFLUOROMETHANE | 75718 | 2.00E-001 I | | 5.00E-002 A | | y | 3.5E+002 N | 1.8E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 5.5E-001 | 1.1E+001 N | |
| 1,1-DICHLOROETHANE | 75343 | 2.00E-001 P | | 1.40E-001 A | | y | 9.0E+002 N | 5.1E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 2.6E-001 | 5.1E+000 N | |
| 1,2-DICHLOROETHANE | 107062 | | 9.10E-002 I | 7.00E-001 M | 9.10E-002 I | y | 1.2E-001 C | 6.9E-002 C | 3.5E-002 C | 3.1E+001 C | 7.0E+000 C | 5.2E-005 | 1.0E-003 C | |
| 1,1-DICHLOROETHENE | 75354 | 5.00E-002 I | | 6.00E-002 I | | y | 3.5E+002 N | 2.2E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | 1.5E-001 | 2.9E+000 N | |
| CIS-1,2-DICHLOROETHENE | 156592 | 1.00E-002 P | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | | |
| TRANS-1,2-DICHLOROETHENE | 156605 | 2.00E-002 I | | 1.7E-002 P | | y | 1.1E+002 N | 6.2E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 3.6E-002 | 7.2E-001 N | |
| TOTAL 1,2-DICHLOROETHENE | 540590 | 9.00E-003 H | | | | | 5.5E+001 N | 3.3E+001 N | 1.2E+001 N | 9.2E+003 N | 7.0E+002 N | 1.9E-002 | 3.7E-001 N | |
| 2,4-DICHLOROPHENOL | 120832 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | 6.0E-002 | 1.2E+000 N | |
| 2,4-D | 94757 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 4.5E-001 | 9.0E+000 N | |
| 4-(2,4-DICHLOROPHOXY)BUTYRIC ACID | 94826 | 8E-003 I | | | | | 2.9E+002 N | 2.9E+001 N | 1.1E+001 N | 8.2E+003 N | 6.3E+002 N | | | |
| 1,2-DICHLOROPROPANE | 78875 | | 6.80E-002 H | 1.14E-003 I | | y | 1.6E-001 C | 9.2E-002 C | 4.6E-002 C | 4.2E+001 C | 9.4E+000 C | 1.0E-004 | 2.1E-003 C | |
| 1,3-DICHLOROPROPANE | 142289 | 2.00E-002 P | | | | y | 1.2E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | | |
| 2,3-DICHLOROPROPANOL | 616239 | 3.00E-003 I | | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | | | |
| 1,3-DICHLOROPROPENE | 542756 | 3.00E-002 I | 1.00E-001 I | 5.71E-003 I | 1.00E-002 I | y | 4.4E-001 C | 6.3E-001 C | 3.2E-002 C | 2.9E+001 C | 6.4E+000 C | 1.6E-004 | 3.1E-003 C | |
| DICHLORVOS | 62737 | 5E-004 I | 0.29 I | 1.43E-004 I | | | 2.3E-001 C | 2.2E-002 C | 1.1E-002 C | 9.9E+000 C | 2.2E+000 C | 5.5E-005 | 1.1E-003 C | |
| DIELDRIN | 60571 | 5.00E-005 I | 1.60E+001 I | | 1.60E+001 I | | 4.2E-003 C | 3.9E-004 C | 2.0E-004 C | 1.8E-001 C | 4.0E-002 C | 1.1E-004 | 2.2E-003 C | |
| DIESEL EMISSIONS | | | | | 1.40E-003 I | | | 5.1E+000 N | | | | | | |
| DIETHYLPHthalate | 84662 | 8.00E-001 I | | | | | 2.9E+004 N | 2.9E+003 N | 1.1E+003 N | 8.2E+005 N | 6.3E+004 N | 2.3E+001 | 4.5E+002 N | |
| DI(2-ETHYLHEXYL)ADIPATE | 103231 | 6.00E-001 I | 1.20E-003 I | | | | 5.6E+001 C | 5.2E+000 C | 2.6E+000 C | 2.4E+003 C | 5.3E+002 C | | | |
| DIETHYLSILBESTROL | 56531 | | 4.70E+003 H | | | | 1.4E-005 C | 1.3E-006 C | 6.7E-007 C | 6.1E-004 C | 1.4E-004 C | | | |
| DIFENOZOQUAT (AVENGE) | 43222486 | 8.00E-002 I | | | | | 2.9E+003 N | 2.9E+002 N | 1.1E+002 N | 8.2E+004 N | 6.3E+003 N | | | |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic). E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAM's applied carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs | | | | | Region III SSIs | |
|--|----------|-----------------|-------------------|-----------------|-------------------|---------------|--|----------------------------------|------------|--------------------------|----------------------|---------------------------------|-----------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations | | | | | Soil, for groundwater migration | |
| | | | | | | | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| 1,1-DIFLUOROETHANE | 75376 | | | 1.10E+001 I | | Y | 8.0E+004 N | 4.0E+004 N | | | | | |
| DISOPROPYL METHYLPHOSPHONATE (DIMP) | 1445756 | 8.00E-002 I | | | | | 2.9E+003 N | 2.9E+002 N | 1.1E+002 N | 8.2E+004 N | 6.3E+003 N | | |
| 3,3'-DIMETHOXYBENZIDINE | 119904 | | | 1.40E-002 H | | | 4.8E+000 C | 4.5E-001 C | 2.3E-001 C | 2.0E+002 C | 4.6E+001 C | | |
| N,N-DIMETHYLANILINE | 121697 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | -2.0E+003 N | 1.6E+002 N | | |
| 2,4-DIMETHYLPHENOL | 105679 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | |
| 2,6-DIMETHYLPHENOL | 576261 | 6.00E-004 I | | | | | 2.2E+001 N | 2.2E+000 N | 8.1E-001 N | 6.1E+002 N | 4.7E+001 N | | |
| 3,4-DIMETHYLPHENOL | 95658 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | | |
| 1,2-DINITROBENZENE | 528290 | 1.00E-004 P | | | | | 3.7E+000 N | 3.7E-001 N | 1.4E-001 N | 1.0E+002 N | 7.8E+000 N | | |
| 1,3-DINITROBENZENE | 99650 | 1.00E-004 I | | | | | 3.7E+000 N | 3.7E-001 N | 1.4E-001 N | 1.0E+002 N | 7.8E+000 N | 1.8E-003 | 3.7E-002 N |
| 1,4-DINITROBENZENE | 100254 | 1.00E-004 P | | | | | 3.7E+000 N | 3.7E-001 N | 1.4E-001 N | 1.0E+002 N | 7.8E+000 N | | |
| 4,6-DINITRO-O-CYCLOHEXYL PHENOL | 131895 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |
| 2,4-DINITROPHENOL | 51285 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |
| DINITROTOLUENE MIX | | | | 6.80E-001 I | | | | | | | | | |
| 2,4-DINITROTOLUENE | 121142 | 2.00E-003 I | | | | | 9.8E-002 C | 9.2E-003 C | 4.6E-003 C | 4.2E+000 C | 9.4E-001 C | | |
| 2,6-DINITROTOLUENE | 606202 | 1.00E-003 P | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | 2.9E-002 | 5.7E-001 N |
| DINOSEB | 88857 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 1.2E-002 | 2.5E-001 N |
| 1,4-DIOXANE | 123911 | | | 1.10E-002 I | | | 6.1E+000 C | 5.7E-001 C | 2.9E-001 C | 2.6E+002 C | 5.8E+001 C | 1.3E-003 | 2.6E-002 C |
| DIPHENYLAMINE | 122394 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 2.6E+004 N | 2.0E+003 N | 1.3E+000 | 2.5E+001 N |
| 1,2-DIPHENYLHYDRAZINE | 122667 | | | 8.00E-001 I | | 8.00E-001 I | 8.4E-002 C | 7.8E-003 C | 3.9E-003 C | 3.6E+000 C | 8.0E-001 C | 1.3E-004 | 2.5E-003 C |
| DIQUAT | 85007 | 2.20E-003 I | | | | | 8.0E+001 N | 8.0E+000 N | 3.0E+000 N | 2.2E+003 N | 1.7E+002 N | 1.7E-002 | 3.3E-001 N |
| DISUFOTON | 298044 | 4.00E-005 I | | | | | 1.5E+000 N | 1.5E-001 N | 5.4E-002 N | 4.1E+001 N | 3.1E+000 N | 3.2E-003 | 6.4E-002 N |
| 1,4-DITHIANE | 505293 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 8.7E-003 | 1.7E-001 N |
| DIURON | 330541 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | 5.8E-002 | 1.2E+000 N |
| ENDOSULFAN | 115297 | 6.00E-003 I | | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 6.1E+003 N | 4.7E+002 N | 9.8E-001 | 2.0E+001 N |
| ENDRIN | 72208 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | 2.7E-001 | 5.4E+000 N |
| EPICHLOROHYDRIN | 106898 | 6.00E-003 P | 9.90E-003 I | 2.86E-004 I | 4.20E-003 I | y | 1.8E+000 N | 1.0E+000 N | 3.2E-001 C | 2.9E+002 C | 6.5E+001 C | 4.3E-004 | 8.6E-003 N |
| ETHION | 563122 | 5.00E-004 I | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | 3.2E-001 | 6.4E+000 N |
| ETHYL ACETATE | 141786 | 9.00E-001 I | | | | | 5.5E+003 N | 3.3E+003 N | 1.2E+003 N | 9.2E+005 N | 7.0E-004 N | 1.7E+000 | 3.5E+001 N |
| ETHYL BENZENE | 100414 | 1.00E-001 I | | | | | 1.3E+003 N | 1.1E+003 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 7.5E-001 | 1.5E+001 N |
| ETHYLENE GLYCOL | 107211 | 2.00E+000 I | | | | | 7.3E+004 N | 7.3E+003 N | 2.7E+003 N | 2.0E+006 N | 1.6E+005 N | 1.5E+001 | 3.0E+002 N |
| ETHYLENE GLYCOL, MONOBUTYL ETHER | 111762 | 5.00E-001 I | | 3.70E+000 I | | | 1.8E+004 N | 1.4E+004 N | 6.8E+002 N | 5.1E+005 N | 3.9E+004 N | 4.8E-006 | 9.5E-005 C |
| ETHYLENE OXIDE | 75218 | | | 1.00E+000 H | | 3.50E-001 H y | 2.3E-002 C | 1.8E-002 C | 3.2E-003 C | 2.9E+000 C | 6.4E-001 C | 4.2E-001 | 8.5E+000 N |
| ETHYL ETHER | 60297 | 2.00E-001 I | | | | | 1.2E+003 N | 7.3E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 7.8E-003 | 1.6E-001 N |
| FENAMIPHOS | 22224926 | 2.50E-004 I | | | | | 9.1E+000 N | 9.1E-001 N | 3.4E-001 N | 2.6E+002 N | 2.0E+001 N | | |
| FLUOMETURON | 2164172 | 1.30E-002 I | | | | | 4.7E+002 N | 4.7E+001 N | 1.8E+001 N | 1.3E+004 N | 1.0E+003 N | | |
| FLUORINE | 7782414 | 6.00E-002 I | | | | | 2.2E+003 N | 2.2E+002 N | 8.1E+001 N | 6.1E+004 N | 4.7E+003 N | | |
| FOMESAFEN | 72178020 | | | 1.90E-001 I | | | 3.5E-001 C | 3.3E-002 C | 1.7E-002 C | 1.5E+001 C | 3.4E+000 C | | |
| FONOFOSS | 944229 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | 1.8E-001 | 3.5E+000 N |
| FORMALDEHYDE | 50000 | 2.00E-001 I | | | 4.50E-002 I | | 7.3E+003 N | 1.4E-001 C | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 1.5E+000 | 3.0E+001 N |
| FURAN | 110009 | 1.00E-003 I | | | | | 6.1E+000 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 1.5E-003 | 3.0E-002 N |
| FURFURAL | 980111 | 3.00E-003 I | | | 1.00E-002 A | | 1.1E+002 N | 3.7E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | 2.3E-002 | 4.6E-001 N |
| GLYPHOSATE | 1071836 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | 2.6E+001 | 5.3E+002 N |
| HEPTACHLOR | 764448 | 5.00E-004 I | 4.50E+000 I | | 4.50E+000 I | | 1.5E-002 C | 1.4E-003 C | 7.0E-004 C | 6.4E-001 C | 1.4E-001 C | 4.2E-002 | 8.4E-001 C |
| HEPTACHLOR EPOXIDE | 1024573 | 1.30E-005 I | 9.10E+000 I | | 9.10E+000 I | | 7.4E-003 C | 6.9E-004 C | 3.5E-004 C | 3.1E-001 C | 7.0E-002 C | 1.2E-003 | 2.5E-002 C |
| HEXBROMOBENZENE | 87821 | 2.00E-003 I | | | | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |

| Sources: I = IRIS; H = HEAST; A = HEAST Alternate; M = ATSDR MRL (chronic); E = EPA-NCEA provisional value; O = other; P = EPA provisional peer-reviewed; m = Default ADAFs applied; carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects; N = Noncarcinogenic effects; ! = RBC at HI of 0.1 < RBC-C; see Alternate RBCs; ** = See Alternate RBCs | | | | | | |
|--|----------|---------------------------|-------------------|-----------------|-------------------|-------------|---|---------------------------------|---------------|--------------------------|----------------------|----------------|-----------------|
| Chemical | CAS | Risk-based concentrations | | | | | | Soil, for groundwater migration | | Region III SSIs | | | |
| | | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC ug/l | Tap water | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg |
| HEXAChLOROBENZENE | 118741 | 8.00E-004 I | 1.60E+000 I | | 1.60E+000 I | | 4.2E-002 C | 3.9E-003 C | 2.0E-003 C | 1.8E+000 C | 4.0E-001 C | 2.6E-003 | 5.2E-002 C |
| HEXAChLOROBUTADIENE | 87683 | 2.00E-004 H | 7.80E-002 I | | 7.80E-002 I | | 8.6E-001 C | 8.0E-002 C | 4.0E-002 C | 3.7E+001 C | 8.2E+000 C | 9.2E-002 | 1.8E+000 C |
| ALPHA-HCH | 319846 | | 6.30E+000 I | | 6.30E+000 I | | 1.1E-002 C | 9.9E-004 C | 5.0E-004 C | 4.5E-001 C | 1.0E-001 C | 4.5E-005 | 8.9E-004 C |
| BETA-HCH | 319857 | | 1.80E+000 I | | 1.80E+000 I | | 3.7E-002 C | 3.5E-003 C | 1.8E-003 C | 1.6E+000 C | 3.5E-001 C | 1.6E-004 | 3.1E-003 C |
| GAMMA-HCH (LINDANE) | 58899 | 3.00E-004 I | 1.30E+000 H | | | | 5.2E-002 C | 4.8E-003 C | 2.4E-003 C | 2.2E+000 C | 4.9E-001 C | 2.2E-004 | 4.3E-003 C |
| TECHNICAL HCH | 608731 | | 1.80E+000 I | | 1.80E+000 I | | 3.7E-002 C | 3.5E-003 C | 1.8E-003 C | 1.6E+000 C | 3.5E-001 C | | |
| HEXAChLOROCYCLOPENTADIENE | 77474 | 6.00E-003 I | | 5.7E-005 I | | | 2.2E+002 N | 2.1E-001 N | 8.1E+000 N | 6.1E+003 N | 4.7E+002 N | 8.8E+001 | 1.8E+003 N |
| HEXAChLORODIBENZODIOXIN MIX | 19408743 | | 6.20E+003 I | | 4.55E+003 I | | 1.1E-005 C | 1.4E-006 C | 5.1E-007 C | 4.6E-004 C | 1.0E-004 C | | |
| HEXAChLOROETHANE | 67721 | 1.00E-003 I | 1.40E-002 I | | 1.40E-002 I | | 4.8E+000 C | 4.5E-001 C | 2.3E-001 C | 2.0E+002 C | 4.6E+001 C | 1.8E-002 | 3.6E-001 C |
| HEXAChLOROPHENE | 70304 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | 1.0E+002 | 2.0E+003 N |
| 1,6-HEXAMETHYLENE DIISOCYANATE | 822060 | | | 2.90E-006 I | | | | 1.1E-002 N | | | | | |
| HEXANE | 110543 | | | 2.00E-001 I | | y | 1.5E+003 N | 7.3E+002 N | | | | | |
| HMX | 2691410 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | 2.9E+000 | 5.8E+001 N |
| HYDRAZINE | 302012 | | 3.00E+000 I | | 1.70E+001 I | | 2.2E-002 C | 3.7E-004 C | 1.1E-003 C | 9.5E-001 C | 2.1E-001 C | | |
| HYDROGEN CHLORIDE | 7647010 | | | 5.70E-003 I | | | | 2.1E+001 N | | | | | |
| HYDROGEN SULFIDE | 7783064 | 3.00E-003 I | | 5.7E-004 I | | | 1.1E+002 N | 2.1E+000 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | | |
| IRON | 7439896 | 7.00E-001 P | | | | | 2.6E+004 N | 2.6E+003 N | 9.5E+002 N | 7.2E+005 N | 5.5E+004 N | | |
| ISOBUTANOL | 78831 | 3.00E-001 I | | | | y | 1.8E+003 N | 1.1E+003 N | 4.1E+002 N | 3.1E+005 N | 2.3E+004 N | 5.9E-001 | 1.2E+001 N |
| ISOPHORONE | 78591 | 2.00E-001 I | 9.50E-004 I | | | | 7.0E+001 C | 6.6E+000 C | 3.3E+000 C | 3.0E+003 C | 6.7E+002 C | 2.1E-002 | 4.1E-001 C |
| TETRAETHYLLEAD | 78002 | 1.00E-007 I | | | | | 3.7E-003 N | 3.7E-004 N | 1.4E-004 N | 1.0E-001 N | 7.8E-003 N | 4.6E-005 | 9.2E-004 N |
| KEPONE | 143500 | 5.00E-004 M | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | | |
| LITHIUM | 7439932 | 2.00E-002 E | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | |
| MALATHION | 121755 | 2.00E-002 I | | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 4.0E-001 | 8.1E+000 N |
| MALEIC ANHYDRIDE | 108316 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| MANGANESE-NONFOOD | 7439965 | 2.00E-002 I | | 1.43E-005 I | | | 7.3E+002 N | 5.2E-002 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 4.8E+001 | 9.5E+002 N |
| MANGANESE-FOOD | 7439965 | 1.40E-001 I | | 1.43E-005 I | | | 5.1E+003 N | 5.2E-002 N | 1.9E+002 N | 1.4E+005 N | 1.1E+004 N | 3.3E+002 | 6.7E+003 N |
| MEPHOSFOLAN | 950107 | 9.00E-005 H | | | | | 3.3E+000 N | 3.3E-001 N | 1.2E-001 N | 9.2E+001 N | 7.0E+000 N | | |
| MEPIQUAT CHLORIDE | 24307264 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | |
| MERCURIC CHLORIDE | 7487947 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | | |
| MERCURY (elemental) | 7439976 | | | 8.60E-005 I | | | | 3.1E-001 N | | | | | |
| METHYLMERCURY | 22967926 | 1.00E-004 I | | | | | 3.7E+000 N | 3.7E-001 N | 1.4E-001 N | 1.0E+002 N | 7.8E+000 N | | |
| METHANOL | 67561 | 5.00E-001 I | | | | | 1.8E+004 N | 1.8E+003 N | 6.8E+002 N | 5.1E+005 N | 3.9E+004 N | 3.8E+000 | 7.5E+001 N |
| METHIDATHION | 950378 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | | |
| METHOXYCHLOR | 72435 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | 1.5E+001 | 3.1E+002 N |
| METHYL ACETATE | 79209 | 1.00E+000 H | | | | y | 6.1E+003 N | 3.7E+003 N | 1.4E+003 N | 1.0E+006 N | 7.8E+004 N | 1.2E+000 | 2.5E+001 N |
| METHYL ACRYLATE | 96333 | 3.00E-002 A | | | | y | 1.8E+002 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | 5.0E-001 | 1.0E+001 N |
| 2-METHYLANILINE | 95534 | | 2.40E-001 H | | | | 2.8E-001 C | 2.6E-002 C | 1.3E-002 C | 1.2E+001 C | 2.7E+000 C | 2.8E-004 | 5.7E-003 C |
| 4-(2-METHYL-4-CHLOROPHOENOXY) BUTYRIC ACID | 94815 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | |
| 2-METHYL-4-CHLOROPHOENOXYACETIC ACID (MCPA) | 94746 | 5.00E-004 I | | | | | 1.8E+001 N | 1.8E+000 N | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | | |
| 2-(2-METHYL-4-CHLOROPHOENOXY)PROPIONIC ACID (MCPP) | 93652 | 1.00E-003 I | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | | |
| METHYLCYCLOHEXANE | 108872 | | | 8.60E-001 H | | y | 6.3E+003 N | 3.1E+003 N | | | | | |
| METHYLENE BROMIDE | 74953 | 1.00E-002 A | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 1.5E-002 | 3.0E-001 N |
| METHYLENE CHLORIDE | 75092 | 6.00E-002 I | 7.50E-003 I | 3.00E-001 M | 1.65E-003 I | y | 4.1E+000 C | 3.8E+000 C | 4.2E-001 C | 3.8E+002 C | 8.5E+001 C | 1.5E-002 | 3.0E-001 N |
| 4,4'-METHYLENE BIS(2-CHLORANILINE) | 101144 | 2.00E-003 P | 1.00E-001 P | | 1.30E-001 H | | 2.0E-001 C | 1.5E-002 C | 3.2E-002 C | 2.9E+001 C | 1.6E+000 C | 9.5E-004 | 1.9E-002 C |
| 4,4'-METHYLENE BIS(N,N-DIMETHYL)ANILINE | 101611 | m | | | 4.60E-002 I | | 1.5E+000 C | 1.4E-001 C | 6.9E-002 C | 6.2E+001 C | 1.4E+001 C | | |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c, see Alternate RBCs !! = See Alternate RBCs | | | | | | |
|---|----------|-----------------|-------------------------------|-----------------|-------------------------------|---------------|--|----------------------------------|------------|--------------------------|----------------------|---------------------------------|---------------------|
| Chemical | CAS | RfDo mg/kg/d | CSF _o 1/mg/kg/d | RfDi mg/kg/d | CSF _i 1/mg/kg/d | VOC | Risk-based concentrations | | | | | | |
| | | | | | | | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil, for groundwater migration | |
| 4,4'-METHYLENEDIPHENYL ISOCYANATE | 101688 | | 1.7E-004 I | | | | 6.2E-001 N | | | | | | |
| METHYL ETHYL KETONE (2-BUTANONE) | 78933 | 6.00E-001 I | | 1.40E+000 I | | y | 7.0E+003 N | 5.1E+003 N | 8.1E+002 N | 6.1E+005 N | 4.7E+004 N | 1.5E+000 2.9E+001 N | |
| METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE) | 108101 | | | 8.60E-001 I | | y | 6.3E+003 N | 3.1E+003 N | | | | 2.9E+000 5.9E+001 N | |
| METHYL METHACRYLATE | 80626 | 1.40E+000 I | | | 2.00E-001 I | | y | 1.4E+003 N | 7.3E+002 N | 1.9E+003 N | 1.4E+006 N | 1.1E+005 N | 3.2E-001 6.5E+000 N |
| METHYL PARATHION | 298000 | 2.50E-004 I | | | | | 9.1E+000 N | 9.1E-001 N | 3.4E-001 N | 2.6E+002 N | 2.0E+001 N | 4.3E-003 8.5E-002 N | |
| 2-METHYLPHENOL | 95487 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | |
| 3-METHYLPHENOL | 108394 | 5.00E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | |
| 4-METHYLPHENOL | 106445 | 5.00E-003 H | | | 1.00E-002 A | y | 5.5E+001 N | 3.7E+001 N | 8.1E+000 N | 6.1E+003 N | 4.7E+002 N | 5.1E-002 1.0E+000 N | |
| METHYLSYRENE MIX | 25013154 | 6.00E-003 A | | | | | 4.3E+002 N | 2.6E+002 N | 9.5E+001 N | 7.2E+004 N | 5.5E+003 N | 4.0E-001 7.9E+000 N | |
| ALPHA-METHYLSTYRENE | 98839 | 7.00E-002 A | | | 4.00E-003 O | 8.57E-001 I | y | 2.6E+000 C | 1.6E+000 C | 7.9E-001 C | 7.2E+002 C | 1.6E+002 C | 5.9E-004 1.2E-002 C |
| METHYL TERT-BUTYL ETHER | 1634044 | | | | | | 5.5E+003 N | 5.5E+002 N | 2.0E+002 N | 1.5E+005 N | 1.2E+004 N | | |
| METOLACHLOR (DUAL) | 51218452 | 1.50E-001 I | | | | | 7.3E+000 N | 7.3E-001 N | 2.7E-001 N | 2.0E+002 N | 1.6E+001 N | | |
| MIREX | 2385855 | 2.00E-004 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | |
| MOLYBDENUM | 7439887 | 5E-003 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| MONOCHLORAMINE | 10599903 | 1E-001 I | | | 1.00E-001 H | | 7.3E+001 N | 7.3E+000 N | 2.7E+000 N | 2.0E+003 N | 1.6E+002 N | | |
| NALED | 300765 | -2E-003 I | | | 8.4E-001 I | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | |
| NICKEL REFINERY DUST | 7440020 | 2.00E-002 I | | | | | 5.8E+004 N !! | 5.8E+003 N | 2.2E+003 N | 1.6E+006 N | 1.3E+005 N | | |
| NICKEL | | | | | | | 3.7E+003 N !! | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| NITRATE | 14797558 | 1.60E+000 I | | | | | 3.5E+000 N | 2.2E+000 N | 6.8E-001 N | 5.1E+002 N | 3.9E+001 N | 1.2E-003 2.3E-002 N | |
| NITRITE | 14797650 | 1.00E-001 I | | | 6.00E-004 A | y | 3.7E+000 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | |
| NITROBENZENE | 98953 | 5.00E-004 I | | | | | 3.7E+000 N | 3.7E-001 N | 1.4E-001 N | 1.0E+002 N | 7.8E+000 N | | |
| **NITROGLYCERIN | 55630 | 1.00E-004 P | 1.7E-002 P | | 5.70E-003 I | 9.40E+000 H y | 1.3E-003 C | 6.7E-004 C | 5.8E-004 C | 5.3E-001 C | 1.2E-001 C | 3.2E-007 6.4E-006 C | |
| 2-NITROPROPANE | 79469 | | | | 5.40E+000 I | | 1.9E-003 C | 1.1E-003 C | 5.8E-003 C | 5.3E-001 C | 1.4E-006 2.7E-005 C | | |
| N-NITROSO-DI-N-BUTYLAMINE | 924163 | | | | | | 2.4E-002 C | 2.2E-003 C | 1.1E-003 C | 1.0E+000 C | 2.3E-001 C | | |
| N-NITROSODIETHANOLAMINE | 1116547 | | 2.80E+000 I | | | | 1.4E-004 C | 1.3E-005 C | 2.1E-005 C | 1.9E-002 C | 1.0E-003 C | 3.5E-008 7.1E-007 C | |
| **N-NITROSODIETHYLAMINE | m | 55185 | 1.50E+002 I | | 1.50E+002 I | | 4.2E-004 C | 3.7E-005 C | 6.2E-005 C | 5.6E-002 C | 3.0E-003 C | 9.1E-008 1.8E-006 C | |
| **N-NITROSODIMETHYLAMINE | m | 62759 | 5.10E+001 I | | 5.10E+001 I | | 3.0E-003 C | 2.8E-004 C | 1.4E-004 C | 1.3E-001 C | 2.9E-002 C | | |
| N-NITROSODIPHENYLAMINE | | 86306 | | 4.90E-003 I | | | 1.4E+001 C | 1.3E+000 C | 6.4E-001 C | 5.8E+002 C | 1.3E+002 C | 3.8E-002 7.6E-001 C | |
| N-NITROSODIPROPYLAMINE | | 621647 | | 7.00E+000 I | | | 9.6E-003 C | 8.9E-004 C | 4.5E-004 C | 4.1E-001 C | 9.1E-002 C | 2.4E-006 4.7E-005 C | |
| N-NITROSO-N-METHYLETHYLAMINE | | 10595956 | | 2.20E+001 I | | | 3.0E-003 C | 2.8E-004 C | 1.4E-004 C | 1.3E-001 C | 2.9E-002 C | | |
| N-NITROSOPIRROLIDINE | | 930552 | | 2.10E+000 I | | 2.10E+000 I | 3.2E-002 C | 3.0E-003 C | 1.5E-003 C | 1.4E+000 C | 3.0E-001 C | | |
| O-NITROTOLUENE | | 88722 | 1.00E-002 H | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | |
| NUSTAR | | 85509199 | 7.00E-004 I | | | | 2.6E+001 N | 2.6E+000 N | 9.5E+001 N | 7.2E+002 N | 5.5E+001 N | | |
| ORYZALIN | | 19044883 | 5.00E-002 I | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | |
| OXADIAZON | | 19666309 | 5.00E-003 I | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | |
| OXAMYL | | 23135220 | 2.50E-002 I | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 2.6E+004 N | 2.0E+003 N | 1.9E-001 3.8E+000 N | |
| OXYFLUORFEN | | 42874033 | 3.00E-003 I | | | | 1.1E+002 N | 1.1E+001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | | |
| PARAQUAT DICHLORIDE | | 1910425 | 4.50E-003 I | | | | 1.6E+002 N | 1.6E+001 N | 6.1E+000 N | 4.6E+003 N | 3.5E+002 N | | |
| PARATHION | | 56382 | 6.00E-003 H | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 6.1E+003 N | 4.7E+002 N | 5.0E-001 1.0E+001 N | |
| PENTACHLOROBENZENE | | 608935 | 8.00E-004 I | | | | 2.9E+001 N | 2.9E+000 N | 1.1E+000 N | 8.2E+002 N | 6.3E+001 N | 1.0E+000 2.0E+001 N | |
| PENTACHLORONITROBENZENE | | 82688 | 3.00E-003 I | 2.60E-001 H | | | 2.6E-001 C | 2.4E-002 C | 1.2E-002 C | 1.1E+001 C | 2.5E+000 C | 4.1E-003 8.2E-002 C | |
| PENTACHLOROPHENOL | | 87865 | 3.00E-002 I | 1.20E-001 I | | | 5.6E-001 C | 5.2E-002 C | 2.6E-002 C | 2.4E+001 C | 5.3E+000 C | | |
| PERCHLORATE | | | 7.00E-004 I | | | | 2.6E+001 N | 2.6E+000 N | 9.5E-001 N | 7.2E+002 N | 5.5E+001 N | | |
| PERMETHRIN | | 52645531 | 5.00E-002 I | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | 1.2E+002 2.4E+003 N | |
| PHENOL | | 108952 | 3.00E-001 I | | | | 1.1E+004 N | 1.1E+003 N | 4.1E+002 N | 3.1E+005 N | 2.3E+004 N | 3.3E+000 6.7E+001 N | |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs, " = See Alternate RBCs | | | | | | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-------------|--|----------------------------------|--------------|--------------------------|----------------------|--|--------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations | | | | Region III SSLs | | |
| | | | | | | | Tap water ug/l | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
| M-PHENYLENEDIAMINE | 108452 | 6.00E-003 I | | | | | 2.2E+002 N | 2.2E+001 N | 8.1E+000 N | 6.1E+003 N | 4.7E+002 N | 4.9E-002 | 9.8E-001 N |
| O-PHENYLENEDIAMINE | 95545 | | 4.70E-002 H | | | | 1.4E+000 C | 1.3E-001 C | 6.7E-002 C | 6.1E+001 C | 1.4E+001 C | | |
| P-PHENYLENEDIAMINE | 106503 | 1.90E-001 H | | | | | 6.9E+003 N | 6.9E+002 N | 2.6E+002 N | 1.9E+005 N | 1.5E+004 N | | |
| PHOSGENE | 75445 | | 8.6E-005 I | | | y | 6.3E-001 N | 3.1E-001 N | | | | | |
| PHOSPHINE | 7803512 | 3.00E-004 I | | 8.60E-005 I | | | 1.1E+001 N | 3.1E-001 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | | |
| PHOSPHORIC ACID | 7664382 | | | 2.90E-003 I | | | | 1.1E+001 N | | | | | |
| PHOSPHORUS (WHITE) | 7723140 | 2.00E-005 I | | | | | 7.3E-001 N | 7.3E-002 N | 2.7E-002 N | 2.0E+001 N | 1.6E+000 N | | |
| PHTHALIC ANHYDRIDE | 85449 | 2.00E+000 I | | 3.43E-002 H | | | 7.3E+004 N | 1.3E+002 N | 2.7E+003 N | 2.0E+006 N | 1.6E+005 N | 2.6E+001 | 5.2E+002 N |
| POLYBROMINATED BIPHENYLS | | 7.00E-006 H | 8.90E+000 H | | | | 7.5E-003 C | 7.0E-004 C | 3.5E-004 C | 3.2E-001 C | 7.2E-002 C ! | | |
| POLYCHLORINATED BIPHENYLS | 1336363 | 2.00E+000 I | | 2.00E+000 I | | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | 2.1E-002 | 4.1E-001 C |
| AROCLOR-1016 | 12674112 | 7.00E-005 I | 7.00E-002 I | | 7.00E-002 I | | 9.6E-001 C ! | 8.9E-002 C ! | 4.5E-002 C ! | 4.1E+001 C ! | 5.5E+000 N | 2.1E-001 | 4.2E+000 C |
| AROCLOR-1221 | 11104282 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | | |
| AROCLOR-1232 | 11141165 | 2.00E+000 I | | 2.00E+000 I | | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | | |
| AROCLOR-1242 | 53469219 | 2.00E+000 I | | 2.00E+000 I | | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | | |
| AROCLOR-1248 | 12672296 | | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | | |
| AROCLOR-1254 | 11097691 | 2.00E-005 I | 2.00E+000 I | | 2.00E+000 I | | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C ! | 5.4E-002 | 1.1E+000 C |
| AROCLOR-1260 | 11096825 | | | 2.00E+000 I | | 2.00E+000 I | 3.3E-002 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | | |
| POLYNUCLEAR AROMATIC HYDROCARBONS | | | | | | | | | | | | | |
| ACENAPHTHENE | 83329 | 6.00E-002 I | | | | y | 3.7E+002 N | 2.2E+002 N | 8.1E+001 N | 6.1E+004 N | 4.7E+003 N | 5.2E+000 | 1.0E+002 N |
| ANTHRACENE | 120127 | 3.00E-001 I | | | | y | 1.8E+003 N | 1.1E+003 N | 4.1E+002 N | 3.1E+005 N | 2.3E+004 N | 2.3E+001 | 4.7E+002 N |
| BENZ[A]ANTHRACENE | m | 56553 | | 7.30E-001 E | | | 3.0E-002 C | 3.0E-003 C | 4.3E-003 C | 3.9E+000 C | 2.2E-001 C | 2.4E-002 | 4.8E-001 C |
| BENZO[B]FLUORANTHENE | m | 205992 | | 7.30E-001 E | | | 3.0E-002 C | 3.0E-003 C | 4.3E-003 C | 3.9E+000 C | 2.2E-001 C | 7.4E-002 | 1.5E+000 C |
| BENZO[K]FLUORANTHENE | m | 207089 | | 7.30E-002 E | | | 3.0E-001 C | 3.0E-002 C | 4.3E-002 C | 3.9E+001 C | 2.2E+000 C | 7.4E-001 | 1.5E+001 C |
| BENZO[A]PYRENE | m | 50328 | 7.30E+000 I | | 3.10E+000 E | | 3.0E-003 C | 6.0E-004 C | 4.3E-004 C | 3.9E-001 C | 2.2E-002 C | 6.1E-003 | 1.2E-001 C |
| CARBAZOLE | 86748 | | 2.00E-002 H | | | | 3.3E+000 C | 3.1E-001 C | 1.6E-001 C | 1.4E+002 C | 3.2E+001 C | 2.3E-002 | 4.7E-001 C |
| CHRYSENE | m | 218019 | | 7.30E-003 E | | | 3.0E+000 C | 3.0E-001 C | 4.3E-001 C | 3.9E+002 C | 2.2E+001 C | 2.4E+000 | 4.8E+001 C |
| DIBENZ[A,H]ANTHRACENE | m | 53703 | | 7.30E+000 E | | | 3.0E-003 C | 3.0E-004 C | 4.3E-004 C | 3.9E-001 C | 2.2E-002 C | 2.3E-002 | 4.6E-001 C |
| FLUORANTHENE | | 206440 | 4.00E-002 I | | | | 1.5E+003 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | 3.1E+002 | 6.3E+003 N |
| FLUORENE | | 86737 | 4.00E-002 I | | | y | 2.4E+002 N | 1.5E+002 N | 5.4E+001 N | 4.1E+004 N | 3.1E+003 N | 6.8E+000 | 1.4E+002 N |
| INDENO[1,2,3-C,D]PYRENE | m | 193395 | | 7.30E-001 E | | | 3.0E-002 C | 3.0E-003 C | 4.3E-003 C | 3.9E+000 C | 2.2E-001 C | 2.1E-001 | 4.2E+000 C |
| 2-METHYLNAPHTHALENE | | 91576 | 4.00E-003 I | | | | 2.4E+001 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | 2.2E-001 | 4.4E+000 N |
| NAPHTHALENE | | 91203 | 2.00E-002 I | | 9.00E-004 I | | 6.5E+000 N | 3.3E+000 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | 7.7E-003 | 1.5E-001 N |
| PYRENE | | 129000 | 3.00E-002 I | | | y | 1.8E+002 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | 3.4E+001 | 6.8E+002 N |
| PROMETON | | 1610180 | 1.50E-002 I | | | | 5.5E+002 N | 5.5E+001 N | 2.0E+001 N | 1.5E+004 N | 1.2E+003 N | | |
| PROMETRYN | | 7287196 | 4.00E-003 I | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | | |
| PROPACHLOR | | 1918167 | 1.30E-002 I | | | | 4.7E+002 N | 4.7E+001 N | 1.8E+001 N | 1.3E+004 N | 1.0E+003 N | | |
| PROPARGITE | | 2312358 | 2.00E-002 I | | | | 7.3E+002 N | 7.3E+001 N | 2.7E+001 N | 2.0E+004 N | 1.6E+003 N | | |
| PROPYLENE GLYCOL, MONOETHYL ETHER | | 52125538 | 7.00E-001 H | | | | 2.6E+004 N | 2.6E+003 N | 9.5E+002 N | 7.2E+005 N | 5.5E+004 N | | |
| PROPYLENE GLYCOL, MONOMETHYL ETHER | | 107982 | 7.00E-001 H | | 5.70E-001 I | | 2.6E+004 N | 2.1E+003 N | 9.5E+002 N | 7.2E+005 N | 5.5E+004 N | | |
| PURSUIT | | 81335775 | 2.50E-001 I | | | | 9.1E+003 N | 9.1E+002 N | 3.4E+002 N | 2.6E+005 N | 2.0E+004 N | | |
| PYRIDINE | | 110861 | 1.00E-003 I | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | | |
| QUINOLINE | | 91225 | | 3.00E+000 I | | | 2.2E-002 C | 2.1E-003 C | 1.1E-003 C | 9.5E-001 C | 2.1E-001 C | | |
| RDX | | 121824 | 3.00E-003 I | 1.10E-001 I | | | 6.1E-001 C | 5.7E-002 C | 2.9E-002 C | 2.6E+001 C | 5.8E+000 C | | |
| RESMETHRIN | | 10453868 | 3.00E-002 I | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | |
| ROTENONE | | 83794 | 4.00E-003 I | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | | |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs Risk-based concentrations | | | | | | Region III SSLs | |
|---|----------|--------------|----------------|--------------|----------------|----------|---|-------------------------------|------------|-----------------------|-------------------|-------------|-----------------|--|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC ug/l | Tap water | Ambient air ug/m ³ | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | DAF 1 mg/kg | DAF 20 mg/kg | |
| SELENIUM | 7782492 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | 9.5E-001 | 1.9E+001 N | |
| SILVER | 7440224 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | 1.6E+000 | 3.1E+001 N | |
| SIMAZINE | 122349 | 5.00E-003 I | 1.20E-001 H | | | | 5.6E-001 C | 5.2E-002 C | 2.6E-002 C | 2.4E+001 C | 5.3E+000 C | 1.7E-004 | 3.3E-003 C | |
| SODIUM DIETHYLDITHIOCARBAMATE | 148185 | 3.00E-002 I | 2.70E-001 H | | | | 2.5E-001 C | 2.3E-002 C | 1.2E-002 C | 1.1E+001 C | 2.4E+000 C | | | |
| STRONTIUM, STABLE | 7440246 | 6.00E-001 I | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+002 N | 6.1E+005 N | 4.7E+004 N | 7.7E+002 | 1.5E+004 N | |
| STRYCHNINE | 57249 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | 8.3E-003 | 1.7E-001 N | |
| STYRENE | 100425 | 2.00E-001 I | | 2.86E-001 I | | y | 1.6E+003 N | 1.0E+003 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 2.9E+000 | 5.7E+001 N | |
| 2,3,7,8-TETRACHLORODIBENZODIOXIN | 1746016 | | 1.50E+005 H | | 1.50E+005 H | | 4.5E-007 C | 4.2E-008 C | 2.1E-008 C | 1.9E-005 C | 4.3E-006 C | 4.3E-007 | 8.6E-006 C | |
| 1,2,4,5-TETRACHLOROBENZENE | 95943 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | 3.3E-002 | 6.6E-001 N | |
| 1,1,1,2-TETRACHLOROETHANE | 630206 | 3.00E-002 I | 2.60E-002 I | | 2.60E-002 I | y | 4.1E-001 C | 2.4E-001 C | 1.2E-001 C | 1.1E+002 C | 2.5E+001 C | 2.0E-004 | 4.0E-003 C | |
| **1,1,2,2-TETRACHLOROETHANE | 79345 | | 2.00E-001 I | | 2.00E-001 I | y | 5.3E-002 C | 3.1E-002 C | 1.6E-002 C | 1.4E+001 C | 3.2E+000 C | 3.4E-005 | 6.8E-004 C | |
| TETRACHLOROETHENE | 127184 | 1.00E-002 I | 5.4E-001 O | 8.0E-002 M | 2.00E-002 O | y | 1.0E-001 C | 3.1E-001 C | 5.8E-003 C | 5.3E+000 C | 1.2E+000 C | 2.3E-004 | 4.7E-003 C | |
| 2,3,4,6-TETRACHLOROPHENOL | 58902 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | | |
| P,A,A-TETRACHLOROTOLUENE | 5216251 | | 2.00E+001 H | | | | 3.3E-003 C | 3.1E-004 C | 1.6E-004 C | 1.4E-001 C | 3.2E-002 C | | | |
| 1,1,1,2-TETRAFLUOROETHANE | 811972 | | 2.29E+001 I | | y | | 1.7E+005 N | 8.4E+004 N | | | | | | |
| TETRAHYDROFURAN | 109999 | 2.00E-001 E | 7.6E-003 E | 8.6E-002 E | 6.8E-003 E | | 8.8E+000 C | 9.2E-001 C | 4.2E-001 C | 3.8E+002 C | 8.4E+001 C | | | |
| TETRYL | 479458 | 4.00E-003 P | | | | | 1.5E+002 N | 1.5E+001 N | 5.4E+000 N | 4.1E+003 N | 3.1E+002 N | | | |
| THALLIUM | 7440280 | 7.00E-005 O | | | | | 2.6E+000 N | 2.6E-001 N | 9.5E-002 N | 7.2E+001 N | 5.5E+000 N | 1.8E-001 | 3.6E+000 N | |
| THALLIUM ACETATE | 563688 | 9.00E-005 I | | | | | 3.3E+000 N | 3.3E-001 N | 1.2E-001 N | 9.2E+001 N | 7.0E+000 N | | | |
| THALLIUM CARBONATE | 6533739 | 8.00E-005 I | | | | | 2.9E+000 N | 2.9E-001 N | 1.1E-001 N | 8.2E+001 N | 6.3E+000 N | | | |
| THALLIUM CHLORIDE | 7791120 | 8.00E-005 I | | | | | 2.9E+000 N | 2.9E-001 N | 1.1E-001 N | 8.2E+001 N | 6.3E+000 N | | | |
| THALLIUM NITRATE | 10102451 | 9.00E-005 I | | | | | 3.3E+000 N | 3.3E-001 N | 1.2E-001 N | 9.2E+001 N | 7.0E+000 N | | | |
| THALLIUM SULFATE (2:1) | 7446186 | 8.00E-005 I | | | | | 2.9E+000 N | 2.9E-001 N | 1.1E-001 N | 8.2E+001 N | 6.3E+000 N | | | |
| THIOBENCARB | 28249776 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E-001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | | | |
| TIN | 7440315 | 6.00E-001 H | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+002 N | 6.1E+005 N | 4.7E+004 N | | | |
| TOLUENE | 108883 | 8.00E-002 I | | 1.40E+000 I | | y | 2.3E+003 N | 5.1E-003 N | 1.1E+002 N | 8.2E+004 N | 6.3E+003 N | 1.3E+000 | 2.7E+001 N | |
| TOLUENE-2,4-DIAMINE | 95807 | | 3.20E+000 H | | | | 2.1E-002 C | 2.0E-003 C | 9.9E-004 C | 8.9E-001 C | 2.0E-001 C | | | |
| TOLUENE-2,5-DIAMINE | 95705 | 6.00E-001 H | | | | | 2.2E+004 N | 2.2E+003 N | 8.1E+002 N | 6.1E+005 N | 4.7E+004 N | | | |
| TOLUENE-2,6-DIAMINE | 8234045 | 3.00E-002 P | | | | | 1.1E+003 N | 1.1E-002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | | |
| P-TOLUIDINE | 106490 | | 1.90E-001 H | | | | 3.5E-001 C | 3.3E-002 C | 1.7E-002 C | 1.5E+001 C | 3.4E+000 C | 3.0E-004 | 5.9E-003 C | |
| TOXAPHENE | 8001352 | | 1.10E+000 I | | 1.10E+000 I | | 6.1E-002 C | 5.7E-003 C | 2.9E-003 C | 2.6E+000 C | 5.8E-001 C | 3.1E-002 | 6.3E-001 C | |
| 1,2,4-TRIBROMOBENZENE | 615543 | 5.00E-003 I | | | | | 1.8E+002 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | | | |
| TRIBUTYLtin OXIDE | 563595 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | | | |
| 2,4,6-TRICHLORANILINE | 634935 | | 3.40E-002 H | | | | 2.0E+000 C | 1.8E-001 C | 9.3E-002 C | 8.4E+001 C | 1.9E+001 C | | | |
| 1,2,4-TRICHLOROBENZENE | 120821 | 1.00E-002 I | | | | y | 6.1E+001 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 1.2E-001 | 2.4E+000 N | |
| 1,1,1-TRICHLOROETHANE | 71556 | 2.80E-001 E | | | y | | 1.7E+003 N | 1.0E+003 N | 3.8E+002 N | 2.9E+005 N | 2.2E+004 N | 1.6E+000 | 3.2E+001 N | |
| 1,1,2-TRICHLOROETHANE | 79005 | 4.00E-003 I | 5.70E-002 I | | 5.60E-002 I | y | 1.9E-001 C | 1.1E-001 C | 5.5E-002 C | 5.0E+001 C | 1.1E+001 C | 3.9E-005 | 7.8E-004 C | |
| TRICHLOROETHENE | 79016 | 3.00E-004 E | 4.00E-001 E | 1.00E-002 E | 4.00E-001 E | y | 2.6E-002 C | 1.6E-002 C | 7.9E-003 C | 7.2E+000 C | 1.6E+000 C | 1.3E-005 | 2.6E-004 C | |
| TRICHLOROFLUOROMETHANE | 75694 | 3.00E-001 I | | | 2.00E-001 A | y | 1.3E+003 N | 7.3E+002 N | 4.1E+002 N | 3.1E+005 N | 2.3E+004 N | 1.1E+000 | 2.3E+001 N | |
| 2,4,5-TRICHLOROPHENOL | 95954 | 1.00E-001 I | | | | | 3.7E+003 N | 3.7E+002 N | 1.4E+002 N | 1.0E+005 N | 7.8E+003 N | | | |
| 2,4,6-TRICHLOROPHENOL | 88062 | | 1.10E-002 I | | 1.00E-002 I | | 6.1E+000 C | 6.3E-001 C | 2.9E-001 C | 2.6E+002 C | 5.8E+001 C | | | |
| 2,4,5-T | 93765 | 1.00E-002 I | | | | | 3.7E+002 N | 3.7E+001 N | 1.4E+001 N | 1.0E+004 N | 7.8E+002 N | 9.8E-002 | 2.0E+000 N | |
| 2-(2,4,5-TRICHLOROPHOXY)PROPIONIC ACID | 93721 | 8.00E-003 I | | | | | 2.9E+002 N | 2.9E+001 N | 1.1E+001 N | 8.2E+003 N | 6.3E+002 N | 1.1E+000 | 2.1E+001 N | |
| 1,1,2-TRICHLOROPROPANE | 598776 | 5.00E-003 I | | | | y | 3.0E+001 N | 1.8E+001 N | 6.8E+000 N | 5.1E+003 N | 3.9E+002 N | 1.2E-002 | 2.5E-001 N | |
| 1,2,3-TRICHLOROPROPANE | 96184 | 6.00E-003 I | 2.00E+000 E | 1.4E-003 E | | y | 5.3E-003 C | 3.1E-003 C | 1.6E-003 C | 1.4E+000 C | 3.2E-001 C | 1.8E-006 | 3.6E-005 C | |

| Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic) E = EPA-NCEA provisional value O = other P = EPA provisional peer-reviewed m = Default ADAs applied, carcinogenic via mutagenic mode of action | | | | | | | Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs | | | | | Region III SSLs | |
|---|----------|-----------------|-------------------|-----------------|-------------------|-----|--|-------------------|------------|-----------------------|--|-----------------|---------------------|
| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations | | | | Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg | |
| | | | | | | | Tap water ug/l | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | | | |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 76131 | 3.00E+001 I | | 8.60E+000 H | | y | 5.9E+004 N | 3.1E+004 N | 4.1E+004 N | 3.1E+007 N | 2.3E+006 N | | 1.2E+002 2.3E+003 N |
| 1,3,5-TRINITROBENZENE | 99354 | 3.00E-002 I | | | | | 1.1E+003 N | 1.1E+002 N | 4.1E+001 N | 3.1E+004 N | 2.3E+003 N | | |
| 2,4,6-TRINITROTOLUENE | 118967 | 5.00E-004 I | 3.00E-002 I | | | | 2.2E+000 C | 2.1E-001 C | 1.1E-001 C | 9.5E+001 C | 2.1E+001 C | | |
| URANIUM (SOLUBLE SALTS; from IRIS) | 7440611 | 3.00E-003 I | | 8.6E-005 M | | | 1.1E+002 N | 3.1E-001 N | 4.1E+000 N | 3.1E+003 N | 2.3E+002 N | | |
| URANIUM (SOLUBLE SALTS; provisional) | 7440611 | 2.00E-004 E | | 8.6E-005 M | | | 7.3E+000 N | 3.1E-001 N | 2.7E-001 N | 2.0E+002 N | 1.6E+001 N | | |
| VANADIUM | 7440622 | 1.00E-003 E | | | | | 3.7E+001 N | 3.7E+000 N | 1.4E+000 N | 1.0E+003 N | 7.8E+001 N | 3.7E+001 | 7.3E+002 N |
| VINCLOZOLIN | 50471448 | 2.50E-002 I | | | | | 9.1E+002 N | 9.1E+001 N | 3.4E+001 N | 2.6E+004 N | 2.0E+003 N | | |
| VINYL ACETATE | 108054 | 1.00E+000 H | | 5.71E-002 I | | y | 4.1E+002 N | 2.1E+002 N | 1.4E+003 N | 1.0E+006 N | 7.8E+004 N | 8.7E-002 | 1.7E+000 N |
| VINYL CHLORIDE inc earlylife (see cover memos) | 75014 | 3.00E-003 I | 1.40E+000 I | 2.8E-002 I | 3.00E-002 I | y | 1.5E-002 C | 7.2E-002 C | | | 9.0E-002 C | 6.2E-006 | 1.2E-004 C |
| VINYL CHLORIDE: adult (see cover memos) | 75014 | 3.00E-003 I | 7.20E-001 I | 2.8E-002 I | 1.5E-002 I | y | | | | 4.4E-003 C | 4.0E+000 C | | |
| WARFARIN | 81812 | 3.00E-004 I | | | | | 1.1E+001 N | 1.1E+000 N | 4.1E-001 N | 3.1E+002 N | 2.3E+001 N | 2.2E-002 | 4.4E-001 N |
| XYLENES | 1330207 | 2.00E-001 I | | 3.00E-002 I | | y | 2.1E+002 N | 1.1E+002 N | 2.7E+002 N | 2.0E+005 N | 1.6E+004 N | 1.5E-001 | 3.0E+000 N |
| ZINC | 7440666 | 3.00E-001 I | | | | | 1.1E+004 N | 1.1E+003 N | 4.1E+002 N | 3.1E+005 N | 2.3E+004 N | 6.8E-002 | 1.4E+004 N |
| ZINEB | 12122677 | 5E-002 I | | | | | 1.8E+003 N | 1.8E+002 N | 6.8E+001 N | 5.1E+004 N | 3.9E+003 N | | |

Supplement to RBC Table: Noncancer RBCs for "!" Chemicals

Last update 04/10/2007

These are the noncancer RBCs at an HI of 1 and 0.1 for "!" chemicals.

They are shown because screening at an HI of 0.1, in accordance with Region III guidance, will result in noncancer RBCs being lower than the cancer RBCs for certain chemicals marked with "!" on the standard RBC table.

| | ug/l Tap | | ug/m3 Air | | mg/kg Fish | | mg/kg Industrial | | mg/kg Residential | |
|--------------------------|-------------|-----------|--------------|--------|---------------|-------|---------------------|-----|----------------------|-------|
| HI | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 |
| aniline | | | | | | | | | 547.5 | 54.75 |
| epichlorohydrin | | | | | | | | | 469 | 46.9 |
| hexachlorobutadiene | 7.3 | 0.73 | 0.73 | 0.073 | 0.27 | 0.027 | 204 | 20 | 15.6 | 1.56 |
| hexachloroethane | 36.5 | 3.65 | 3.65 | 0.365 | 1.35 | 0.135 | 1022 | 102 | 78 | 7.8 |
| polybrominated biphenyls | | | | | | | | | 0.55 | 0.055 |
| aroclor-1016 | 2.55 | 0.255 | 0.255 | 0.0255 | 0.09 | 0.009 | 72 | 7.2 | 1.56 | 0.156 |
| aroclor-1254 | | | | | | | | | | |
| 2,4,6-trinitrotoluene | 1.83E+001 | 1.83E+000 | 1.8 | 0.18 | 0.68 | 0.068 | 511 | 51 | 39 | 3.9 |

Nitrate and nitrite have MCLs of 10000 ug/L and 1000 ug/L, respectively, based on protection against methemoglobinemia in infants.

These MCLs may serve as alternate tap water RBCs for populations that include infants, because they are expected to be more sensitive to this endpoint than adults.

J. Soto assisted in the preparation of the original version of this table